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ABSTRACT

In an effort to determine the extent to which the development of the retirement function can contribute to growth and development of rural communities, 42 counties not adjacent to Standard Metropolitan Statistical Areas in Michigan were studied. The retirement function was treated as a specialized community function, parallel to specialization such as agriculture, manufacturing, or services; community was seen as the basic form of organization in which a population adapts to its environment. It was found that none of the specialized functions directly promoted community growth between 1970 and 1975. The retirement function, however, had an impact on wholesale and retail activities and on migration of younger people, which in turn affected population growth and structural development. Migration of younger people to the community was found to be the crucial factor determining population growth and structural development. Since the inmigration of younger people to nonmetropolitan areas was associated with the development of the retirement function more strongly than with any other specialized community function, it was concluded that the development of the retirement function in nonmetropolitan areas was the most important factor contributing to population growth and structural development between 1970 and 1975. (BR)

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RETIREMENT FUNCTION AND COMMUNITY GROWTH IN MICHIGAN NONMETROPOLITAN AREAS

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RETIREMENT FUNCTION AND COMMUNITY GROWTH IN MICHIGAN NONMETROPOLITAN AREAS

by

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Introduction

The historical trend of rural to urban migration in the U.S. has been reversed in recent years. The revival of population growth in nonmetropolitan areas, demonstrated by Beale (1975), has drawn our attention to migration and population redistribution as between metropolitan and nonmetropolitan areas. It has been noted that the recent nonmetropolitan growth has not occurred disproportionately in counties with the largest population centers and manufacturing industries (Beale, 1975: 9). The attractiveness of rural and small town communities seems to have increased. However, it is also evident that rural areas dominated as they are by extractive economic activities, especially by agriculture, have become less attractive due to shrinking employment opportunities. Rural-urban migration is inevitable when rural people are seeking sustenance. Thus, the turnaround poses the question: what kind of growth has taken place in nonmetropolitan areas?

Beale (1975) found that counties with a high net migration rate of elderly in the 1960 decade were located in nonmetropolitan areas. It has also been shown that the number and rate of older people moving from metropolitan to nonmetropolitan areas were higher than from nonmetropolitan to metropolitan areas (Zuiches and Brown, 1976). If this pattern continues, an increasing number

of nonmetropolitan communities will exhibit growth and become retirement oriented. The development of the retirement function for rural communities may become increasingly important. This study seeks to examine the extent to which the development of the retirement function can contribute to growth and development of rural communities.

Few studies have attempted to examine the characteristics of the retirement community and the impact of elderly migrants upon the community. Harlan (1954) examined the impact of the in-migration of retired persons to St. Petersburg and concluded that the presence of retired persons is reflected in demographic measures, in occupations of the younger population, and in the types of local business and professional activities. Among the findings reported were a higher median age, higher proportions of the population aged 65 and over, a smaller average size of household, a lower sex ratio, and a lower rate of labor force participation.

Complete retirement in industrialized societies is often the source of serious problems. A sharp reduction in income often forces older persons into low cost, poorly constructed housing, or into mobile homes (Kafoglis, 1974). Reduced income also often restricts the elderly's activities, and inhibits a sense of psychological freedom (Rose, 1967: 9). The social participation of older people is generally greatly reduced (Webber, 1954; Koebernick and Beegle, 1976; Beck, 1975). The activities of older persons tend to decrease as age increases, and activities are more passive, as proposed by the disengagement theorists (Cumming & Henry, 1961). Thus, the community characteristics associated with the development of the retirement function in nonmetropolitan areas are a high percentage of income from social security as a major source of sustenance, low socioeconomic levels, low occupational status, poor housing conditions, and community functions dominated by small scale business (Wang,

1977). Given these characteristics associated with the increase of older people in the community, the chances for growth and development would seem to be very small. However, the results of our study indicate that the growth and development of rural communities in recent years due to the development of the retirement function is more important than other specialized functions such as agriculture, manufacturing, and service.

The county is used as the unit of analysis. Since the focus of this study is on the areas removed from larger urban centers, a total of 42 counties not adjacent to Standard Metropolitan Statistical Areas in Michigan are investigated. All counties are located in the Upper and Northern Lower Peninsulas of Michigan. The major sources of data are the 1970 Census of Population, Current Population Reports, P-26, and Dun and Bradstreet Reference Book. The migration data are derived from Bowles and Lee (1975), Net Migration of the Population, 1960-1970, by Age, Sex, and Color. In addition, The Michigan Statistical Abstract is used.

The Retirement Function as a Specialized Community Function

Basic Concepts in this study are the retirement function and community growth. The retirement function is treated as a specialized community function, parallel to specialization such as agriculture, manufacturing, or services. A retirement community is ordinarily considered the planned residential area and housing arrangements for the elderly within a community, usually found in urban areas. (Barker, 1966; Webber and Osterbind, 1961). Such planned retirement communities are seldom found in rural areas. This study does not attempt to examine the specific retirement community setting within a community, but rather is concerned with the development of the retirement function of the community.

In accord with an ecological approach, community is defined as ". . . the structure of relationships through which a localized population provides its daily requirements." (Hawley, 1950: 180). The community is the basic form of organization in which a population adapts to its environment. In other words, community would provide certain functions to meet the needs of residents. Warren (1963) suggests that the major functions which have locality relevance carried out by social units in the community are production-distribution-consumption, socialization, social control, social participation, and mutual support. The community is characterized by the organization of these functions on a locality basis. A retirement community essentially provides a setting for the elderly to carry out their daily needs - residence, recreation, material subsistence, etc. Thus, the retirement function of the community can be recognized in terms of the extent to which the community performs those functions for the elderly, as Warren suggests. Since the demand structure of the elderly is different from the rest of the population, the community structure required to perform these functions will be different from other types of communities.

Sustenance organization is of major concern in human ecology. That is, how do population aggregates cope with a concrete environment to satisfy subsistence needs and maximize conditions favorable to the persistence of the aggregate? The "key function" of the system is among the principles of ecological organization. In every system of relationships among diverse functions, the connection of the system to its environment is mediated primarily by one or a relatively small number of functions (Hawley, 1973: 33-34). Some activities extract the principal sustenance from local resources, and the product, or a substantial part of it, is exchanged for other sustenance materials, whether through trade or other distinct mechanisms. Thus, the key function is determined by the comparative importance of production and other

pursuits as resources of sustenance. The activities of the sustenance organization are reflected in the labor force participating in a community. Industrial composition of the community is an indicator end of sustenance organization.

Since the labor force participation reflects sustenance activities (Frisbie and Poston, Jr., 1975, 1976), different kinds of key functions will require different amounts and kind of workers. From this perspective, communities specialized in certain functions provide different kinds of labor forces. What about those who are not needed by the system because of retirement? For those retired from the labor force, the community also provides a setting to carry out retirement activities. When communities become specialized in retirement activities, the retirement function becomes the key function in the community. This specialization will be reflected by the number of older people in the community.

Since most people retire around age 65, the intensity of the retirement function of the community can be identified in terms of the proportion of population aged 65 and over. The greater the proportion of population 65 and over, the greater the tendency for a community to develop a retirement function relative to other community functions. When the number and the proportion of elderly in the community become large enough to alter community structure (economic base, industrial composition, occupational composition, patterned behavior of social units, etc.), retirement may become the major function.

However, when we examine the proportion of elderly in communities regarded as retirement communities in many studies, this criterion is not sufficient. In Webber's study (1954), Orlando and West Palm Beach were chosen as retirement communities. Only 13.5% of the population in Orlando and 11.8% in West Palm Beach were 65 and over. In Eteng and Marshall's study (1970), the proportion of elderly in the communities they chose ranged from 12% to 28%. In contrast, typical retirement communities, such as St. Petersburg, had more than 30% elderly

(Catau, 1973). In counties of the North Central Region, the average percentage of population aged 65 and over in 1970 was 13.3%. In nonmetropolitan counties not adjacent to an SMSA in the region the average was 14.5% -- higher than for most communities in previous studies. A high proportion of elderly, however, may be the result of the outmigration of younger people and not due to the in-migration of elderly. Therefore, the migration rate of the elderly -- one kind of connection with the larger system -- is the most important indicator of potential growth of the retirement community. To determine retirement function, elderly migration must be taken into account.

To measure other key functions, the proportions of the labor force participating in agriculture, manufacturing, wholesale and retail trade, and service are used to indicate the importance of particular industries in the community. But, census information concerning labor force participation by industry is based on residence, not upon the location of the industries. To capture the structure of local industries, information about wage and salary of employment in particular industries as a percentage of total county employment is also used. The proportion of the population aged 65 and over and net migration rate of the elderly are used to indicate the degree of a community's retirement function. With these indicators of key functions, factor analysis is carried out.[1/]

As Table 1 shows, the major industries, percent population aged 65 and over, and net migration rate of population 65 and over form four factors -- agriculture, manufacturing, service, and retirement function -- with eigen value greater than 1. The percentage employment in wholsesale and retail trade and percentate wage and salary workers in wholesale and retail trade do not form a factor. They are loaded on all other factors, negatively on the agricultural and manufacturing functions, positively on the retirement and service functions. In other words,

wholesale and retail trade are the most common sustenance activities penetrating all types of communities, and always depend on the development of other functions.

(Table 1 about here)

In order to simplify the factor loading, another factor analysis is performed without wholesale and retail trade. See Table 2. The proportion of variance explained by the four factors -- agriculture, manufacturing, service and retirement function -- increases from 76.1% in Table 1 to 82.5% in Table 2. The emergence of the retirement function of the community is therefore evident.

(Table 2 about here)

Using factor score coefficients of the variables in each factor in Table 2, composite indexes of each function are developed. For the retirement function, the index is obtained by adding the factor scores of percent population 65 and over and net migration rate of the elderly. The composite index of other specialized functions, agriculture, manufacturing, and service are obtained by the same procedure.[2/] The analysis that follows are based on the four indexes of community specialization.

Community Growth

Changes in community characteristics over time cannot be justified as representing both growth and development. Population growth customarily has been used to indicate the quantitative growth of a community. Quantitative growth and qualitative growth, or structural development, are different, although sometimes they are highly correlated. While a quantitative change may not necessarily cause a change in the structure, any change in the structure will always bring about quantitative change. When the community is viewed as a system, its structure is a

set of component parts and their patterned relationships. According to the structural-functional perspective, the concept of growth and development of a community can be analogous to the biological process of growth in an organism. Thus, the growth of a system is conceptualized as the process of differentiation among these components. Since a community is the combination of social units and systems which perform major social functions and is characterized by the organization of these functions on a locality basis, as defined by Warren (1963), development of a community is essentially related to the process of differentiation among those social units performing social functions.

Differentiation is both a state and a process. As a state, differentiation can be defined as the number of structurally distinct and functionally specialized units in a system. As a process, it is the emergence of more distinct organizations to fulfill more distinct functions. When differentiation is applied to community structure and development, as a state, it refers to the number of structurally distinct and functionally specialized social units (organizations, establishments, or what many call institutions). As a process, it refers to the emergence of new social units performing distinctly specialized functions.

According to the ecological and social systems perspectives (Hawley, 1973; Warren, 1963), community is the organization of social units performing social functions, which involves the specialization of key community functions and the internal differentiation of social units in performing major social functions for the residents of the community. Specialization or key function is essentially related to the concept of economic base. As a matter of fact, community units include those performing the function of economic base and those performing the function of local consumption or

system maintenance. According to economic base theory, local service business is dependent upon basic export business. The symbolic-structural approach taken by Young and Young (1973) shows a greater tendency of differentiation toward commercial activities in the community. Central place theory also tends to focus on goods and services for immediate consumption in the locality and hinterlands. This suggests that the end result of development is oriented toward the growth of locally relevant functions -- stores, shops, and service centers that serve the local community, but not factories, farms, or some organizations that serve the larger systems or the larger societal level in general. As Warren (1963) notes, those performing local functions are the outlets of production or functions of those performing for the larger society. Hence, in constructing differentiation scale and process of development at the community level only the locally relevant activities (local service business) are used as indicators.

To measure differentiation, this study uses a simple count of the types of establishments or institutions listed in Dun and Bradstreet Reference Book, July 1970 and July 1975.[3/] Locally relevant functions are indicated by the types of establishments in construction, transportation and communication, wholesale and retail trade, and service businesses. Because of lack of data, those locally relevant functions such as mutual support, social control, socialization, and social participation, suggested by Warren, are not measured. As mentioned above, service industry is one of the specialized functions of the community. But, intrinsically, some service functions are more locally relevant, such as laundries and auto repair service. Hence, only those locally-relevant are selected, and as a consequence, motels, hotels, sport and recreation camps are excluded.

Only the largest places in the counties under investigation are used as the geographic unit for collecting the data. It is assumed that these centers in rural counties are the loci of most institutions or establishments. Changes in the community will be reflected by changes in community centers. Hawley (1950: 180) notes that community refers to the structure of relationships through which a localized population provides its daily requirement, and the community center becomes a settlement specialized in services and administrative functions. The community center is the nucleus or point of concentration for interrelationships among social units in the community.[4/]

Stores and shops in the Dun and Bradstreet Reference Book are coded with the four digit Standard Industrial Classification. Only 115 types of establishments are used for analyzing changes in community between 1970 and 1975.[5/] Many studies have used Guttman scale to measure structural differentiation (Young, 1966, 1970; Young and Young, 1973; Stuby, 1975, 1976; Wakeley, 1961). The assumption behind the Guttman scale of differentiation is that growth is cumulative and unidimensional. According to this conception, a community, in order to develop a higher level of function and structure, must have all the lower functions and structure necessary to produce the higher level of function. The Guttman scale technique is considered able to capture the development process and to demonstrate the stages of development. If there were any universal law or underlying pattern of growth derived by the technique, different studies would have produced somewhat similar scales. However, the scales developed in the many studies are different from one another. The assumption of the cumulative nature of development may be questionable. In reality, some old parts may gradually disappear as their functions are taken over by other specialized units, and some specialized units may lose their functions as the organization of functions change (e.g., a department

store or large shopping complex under one roof). Thus, it was decided to use a simple count of the presence or absence of social units with distinct functions and structure in a period of time to approximate structural change.

Based on the 115 functions selected from Dun and Bradstreet Reference Book in 1970 and 1975, indexes of structural change are developed. (1) Number of functions or types of establishment added to the community between 1970 and 1975 (Σa_i); (2) Number of functions or types of establishment dropped from the community between 1970 and 1975 (Σb_j). Functions dropped and added are different in their importance (in terms of the scarcity in the region) in the development process. Thus, scores (or rank orders) are given to each type of function based on distribution of the functions among the largest places of the counties in the region. For example, only 3 counties in the area under study have furriers and fur shops. A score of 39 (42 minus 3) is given to this function. If the (f_i) denotes score of $_i$th function added, (f_j) denotes $_j$th function dropped, the weighted structural change is measured as follows: (3) Total score of structural change equals $\Sigma a_i f_i - \Sigma b_j f_j$; (4) Index of structural development equals total score of change divided by total number of functions in the community in 1970. Total score of structural change indicates the absolute change in functions, while index of structural development indicates a relative rate of weighted change of functions.

Table 3 shows the interrelations of the four measures. Number of functions added to the community is positively correlated with all other measures. The opposite is true for number of functions dropped. Both total score of structural change and index of structural development are negatively correlated with number of functions dropped and positively correlated with number of functions added. This indicates that new functions of higher orders are added, and older functions of lower orders are replaced.

(Table 3 about here)

Retirement Function and Community Growth

Based on the measures of the specialization of community functions and population growth and structural development, zero-order correlation and multiple regression analyses are carried out.[6/] Population growth involves changes in natural increase as well as migration. Migration of younger people will determine the overall growth of the community because that group affects natural increase of the population on one hand, and constitutes a major part of the labor force, on the other hand. In particular, persons over 30 more likely will stay on the job and will have established their families. Therefore, the net migration rate of the population aged 30 to 54 is treated as an intermediate variable between retirement function and community growth.

As mentioned in the last section, the sustenance organization involves the specialization of key functions and differentiation of locally relevant functions. Wholesale and retail trade, as part of the sustenance organization, is considered a locally relevant activity. One possible channel through which the retirement function influences the inmigration of younger people is the increase in locally relevant functions. Thus, the extent of wholesale and retail trade activities is also taken into account. It is measured by adding Z-scores of percent employment in wholesale and retail trade in 1970 and percent wage and salary in wholesale and retail trade in 1973.

Table 4 shows correlations between specialization and growth measures. Measures of specialization do not correlate significantly with each other as shown in the factor analysis. Wholesale and retail trade is somewhat dependent on the other types of sustenance functions. The retirement function is positively correlated with wholesale and retail trade, population growth, and structural

(Table 4 about here)

change, and especially with the migration rate of younger people. The agriculture function is negatively associated with wholesale and retail trade, but positively correlated with migration of younger people and population growth rate. This may indicate that the rurality associated with agriculture also attracts young migrants.

Manufacturing is either negatively or not correlated with all variables except migration of younger people. This suggests that manufacturing specialization in communities does attract some younger people. However, compared with retirement function, the correlation between manufacturing and migration of younger people is not so significant.

Service function is positively correlated with wholesale and retail trade, migration of younger people, population growth, and structural development, but not as significant as the retirement function. Thus, the zero-order correlations of the variables have shown the importance of the retirement function in nonmetropolitan communities.

Table 5 shows standarized regression coefficients of specialized community functions on population growth and structural development. Since wholesale and retail trade and migration of younger people are treated as intermediate variables between specialization and growth measures, regressions of the two variables are also shown in Table 5. The retirement function has a strong direct effect on the migration of younger people and on wholesale and retail trade. However, its direct effect on population growth becomes negative (-.17) and its impact on structural change is reduced to almost zero. This may be because the increasing proportion of elderly itself impairs the growth and development of the community. Thus, its influence on community growth is more indirect through other variables.

(Table 5 about here)

Specialization in agriculture has a negative impact on the wholesale and retail trade activities and structural development. Its direct effect on net migration of younger people and population growth rate between 1970 and 1975 tends to be positive. It is unlikely that employment in the agricultural sector increased in recent years. Rather it may be because the agricultural function is highly associated with the rurality of the area.

Specialization in manufacturing has a negative impact on the wholesale and retail trade and structural development. It also tends to frustrate population growth between 1970 and 1975. However, it does attract some younger people aged 30 to 54. The specialization in manufacturing in rural areas may be conditioned by the central place system in the region. That is, the growth and development generated by manufacturing may go to other central places in the surrounding areas, or to large metropolitan centers. Another possibility is that the development of manufacturing may attract many people commuting to the locality and those commuters may spend their money in the place of residence. Thus, the development of manufacturing may generate some degree of development for the region, but not necessarily for the localities where the plants or factories are located.

Specialization in service industry in rural areas does help the development of wholesale and retail trade, structural development, and attracts the migration of younger people. But it does not directly stimulate population growth between 1970 and 1975. The wholesale and retail trade shows a positive effect on migration of younger people and especially contributes to population growth. This suggests that the development of locally relevant sustenance activities will attract some people, and will retain more local people in the community. However, surprisingly, the wholesale and retail activities do not directly contribute to structural development. In other words, the communities with larger trade centers in 1970 are not necessarily the ones having the higher rate of structural development between 1970 and 1975.

Migration of younger people to the community is the crucial factor determining population growth and structural development, as shown by the standardized regression coefficient of .82 on population growth and by that of .29 on structural development. It is clear that migration of younger people between 1960 and 1970 had a significant impact on population change and structural development between 1970 and 1975. However, the inmigration of younger people to nonmetropolitan areas is strongly associated with the development of the retirement function. This relationship is stronger than for any other specialized community function. Thus, it can be concluded that the development of the retirement function in nonmetropolitan areas was the factor contributing to population growth and structural development between 1970 and 1975.

Overall, the specialized community functions and migration of younger people explains 61% of the variance in population growth between 1970 and 1975. But these variables explain only 15% of the variance in structural change in that period. It is obvious that variables influencing structural change are quite different from those influencing population growth.

Elderly Migration and Community Growth

Elderly migration is one of the major factors determining the recent growth in nonmetropolitan areas. When the net migration rate of elderly and the proportion of the older population are analyzed separately, the importance of elderly migration in community growth becomes clear. As Table 6 shows, correlations between elderly migration and community growth measures are higher than for the proportion of the elderly. When the two variables are entered into the regression analysis, as shown in Table 7, elderly migration directly affects wholesale and retail trade activities to the same degree as

the retirement function (standardized regression coefficient of .39). At the same time, the migration of the elderly strongly affects the net migration of younger people, and therefore, contributes to population growth and structural development.

(Tables 6 and 7 about here)

On the other hand, the proportion of elderly shows no impact on wholesale and retail trade, and the migration of younger people. Also, it has a negative effect on population growth and structural development. Since the higher migration rate of the elderly will cause an increase in the proportion of elderly in the community, the impact of elderly migration reflected by an increase in older people will frustrate community growth. Therefore, two opposing impacts of elderly migration on community growth can be distinguished. One is the positive effect channeled through its association with the migration of younger people. Another is the negative effect through its influence on the increase in the proportion of elderly. However, since the growth contributed by elderly migration is greater than the decline caused by a higher proportion of elderly, overall growth can be sustained.

Conclusions and Implications

The primary focus of this study is on the relationship between the retirement function and community growth. In order to capture community growth, population growth and structural development are used as indicators of community growth. Population growth is a self-explanatory variable. Structural development refers to the emergence of new social units performing distinct functions, or in other words, to the differentiation process of social units.

Social units within a community include those performing functions for the larger society as well as those for the locality. Some organizations or establishments are developed at the societal (regional) level, and some are primarily developed for the local community. The locally-relevant commercial activities are used to construct an index of structural development.

In terms of sustenance organization, the broad functional categories such as agriculture, manufacturing, and service are used. The retirement function is considered a specialized community function because the community provides a setting for the older people carrying out retirement activities, and this function may be developed to serve the larger system. The comparison of the retirement function with other specialized functions makes the importance of the retirement function in community growth in recent years more explicit.

It was found that none of the specialized functions directly promoted community growth between 1970 and 1975. Although the retirement function tended to frustrate population growth and had no effect on structural development, the manufacturing function not only frustrated population growth but also undermined structural development. The agricultural function in rural communities tended to foster a small amount of population growth, although it had a negative effect on structural development. The service function was just opposite that of the agricultural function; that is, it tended to promote structural development but showed no impact on population growth.

The retirement function, however, had an impact on wholesale and retail activities and on migration of younger people, which in turn affected population growth and structural development. Although the manufacturing function attracted some younger migrants, it did not promote wholesale and retail trade. Specialization in agriculture undermined the growth of wholesale and retail trade. Thus,

the community specialized solely in agriculture will have insufficient locally-relevant activities. The service function contributed to the growth of locally relevant activities and to the migration of younger people, but its contribution was not as great as the retirement function. Therefore, the retirement function can be considered the most important of the specialized community functions in maintaining and promoting community growth between 1970 and 1975.

Our findings suggest several implications for the theories of community growth and development. The economic base theorists argue that export industry is the key to economic strength of the community, and expansion along basic lines usually causes further growth in local service activities and in the growth of the total economy (Isard and Kavesh, 1961). This may be true in an urban economy but does not seem to apply to a rural economy. It would seem that the multiplier of growth effect involved in the development of the economic base in rural communities may be transferred to other localities or to other larger urban centers where the headquarters of the basic industries are located.

Central place theorists argue that the functional importance of a place in terms of how much goods and services are provided by that place in the region, will determine the extent to which a place can grow (Christaller, 1933; Berry, 1961, 1967). The differential importance of functions among places constitutes a hierarchical system in a region. The larger the place the greater the possibility of growth. Basic parameters in the central place system are the distance people are willing to travel to obtain goods and services, and the range of central goods the providers are willing to sell. The larger places, with more goods and services, become more favorable for exchange than smaller places. The improvement in transportation facilities and bettter roads enable people to journey to larger centers to obtain more types of central goods, instead of relying on local stores. Therefore, as Berry (1967) notes, the increased scale

of retailing and the emergence of chain store operations plus easy transportation have fostered the centralization of central goods. As a consequence, the smallest centers vanish, the intermediate size places suffer a relative decline, and only the larger centers grow.

One primary factor involved in this process is the willingness of people to travel longer distance. If most people are unable or unwilling to travel to obtain goods and services at larger centers, no matter how the transportation is improved, the centralization of operations may not be necessary because people still buy their goods and services in the local community. If this is the case, the small centers can be maintained. Older people are less mobile than younger people. The economic distance for goods and service demanded by older people will be shorter. Therefore, the communities specialized in the retirement function, even if it is a small town or village can be maintained without following the same pattern of growth as proposed by central place theorists.

Previous studies indicate that in general a high degree of urbanization discourages in-migration of the elderly, that higher proportions of elderly are to be found in central places, and that the smaller the place the higher the proportion of older population (Sheldon, 1967; Wang, 1977). A common pattern at retirement on the part of farmers involves moving to the town or village that had served the farm family (Bauder and Doeflinger, 1967). It has also been found that the recent elderly mingrants to rural communities are primarily from urban places (Koebernick, 1974: 122). It would seem that those who migrate from urban areas where they were accustomed to a variety of goods and services would find locations close to the community center more attractive than more remote locations. Hence, it would seem that migrants would tend to move to those locations having easy access to goods and services. Both the farmer retirees and the elderly from urban areas should tend to concentrate in the existing small trade centers, small towns

or villages. Since highly urban locations are not particularly attractive to elderly inmigrants, the development of the retirement function in rural communities should strengthen the small towns and villages.

Warren (1963) argues that increasing division of labor and differentiation of interests and associations, together with the increasing systematic relationship to the larger society, have fostered a decline in community cohesiveness and autonomy. This trend he refers to as the "great change". Warner (1974) also considers that the problem of rural transformation in a post-industrial age is related to powerlessness of rural communities because the decisions and actions of consequence in society are controlled and made by corporate actors and bureaucrats who are concentrated in metropolitan places. All of these arguments are concerned with the relationships between the rural community and the larger society in terms of functional specialization, differentiation, interdependency, and centralization caused by technological advance. The communities which participate in the system are affected by this process and change. If communities do not participate in the system, such as the Amish, for instance, the impact may be less severe than for those in the system. Since elderly are mostly retired from the labor force, a major link with the larger system, the involvement of retirement communities in the larger system may be less significant than for other types of communities. Older people may differ from younger people who are so anxious to participate beyond the confines of the local community in order to gain recognition in the larger system. Thus, rural communities specialized in the retirement function may in part escape the "great change".

However, retirement communities cannot be completely isolated from the larger system because the major sources of sustenance are still provided by the system, such as social security and services to the elderly. Although the services to the elderly are mostly located in larger centers (Wang, 1977), these services do

not constitute central goods and services to which older people travel to obtain. Instead, the services go to local communities to service the elderly. This becomes another important factor in maintaining population in the community. Therefore, the retirement function of rural communities plays an important role in maintaining population growth in rural areas.

Many church groups, voluntary organizations, and especially various levels of governments have been trying to serve the aged. The Older American Act in 1965 established the Administration on Aging responsible for national programs and concerns for problems and services to senior citizens. Federal money has been given to state and local governments and local funds have been appropriated to provide services such as the nutrition program, community centers for senior citizens, home services, and transportation. The expansion of these programs should have a profound impact on community development and on population and institutional growth. Thus, future study should focus on the extent to which these programs and services affect community growth in rural areas.

FOOTNOTES

1. The principal-component solution with orthogonal rotation of maximizing the variance of the squared loadings in each column is used. Since the method extracts the principal components which are defined as exact mathematical transformations of original variables, the factor scores' coefficients for each variable can be derived.

2. Only those variables that have substantial loadings on a given factor are included in constructing the composite index of particular factor variable. The procedures to derive composite index from factor score coefficients can be found in Norman H. Nie, et al. (1975), Statistical Package for the Social Science, p. 488-489.

3. The Dun and Bradstreet Reference Book is published every three months. It is a credit information service for stores, shops, companies and various professional groups. The reference is supposed to give a complete listing of locally owned businesses. Although we cannot expect one hundred percent coverage of the listing, when two points of time are compared, information about changes is useful. Since this study emphasizes the type of the business, instead of the absolute number of the business, the problem of coverage may not be so severe. Nevertheless, the listing is primarily limited to commercial activities. Data on noneconomic services posed a difficult problem if only this reference is used (Wakeley, 1961).

4. Most of the largest places of the county are located on the main transportation lines. Although a standard land area is 36 x 36 square miles for a county and 6 x 6 square miles for a township, the counties under study are 24 x 24 square miles with an average of about 16 townships in every county. In other words, in the normal driving condition, people can cross a county in 30 minutes. Thus, the accessibility to the largest places in the county is very high. The largest place is the community center; the nucleus or point of concentration for interrelationships among social units. Therefore, the largest places should be the geographic locations where the important institutions and organizations are located and people can easily reach.

5. In 1972, Standard Industrial Classification codes were revised. The industrial codes in the Dun and Bradstreet Reference Book for 1970 were based on the revision of 1967 codes. The codes for 1975 were based on the 1972 revision. Thus, the data of the two points of time raises the problem of comparability. After going through the examination of differences and relationships between 1967 and 1972 codes, the 1975 codes are translated back to 1970 codes when possible. Finally, only 115 functions, or types of business are considered relevant to this study and comparable at the two points of time.

6. The significance test of correlation coefficients and regression coefficients is not used because the sample used in this study is not drawn based on sampling procedures. The inference of sample statistics to the parameters in population becomes meaningless. (Morrison and Henkel, 1970). But, besides the description of growth pattern in Michigan nonmetropolitan areas, it is hoped that more studies in other areas can be compared so that the findings can be generalized to the areas similar to Michigan.

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TABLE 1. Factor loading of community functions, 42 Michigan nonmetropolitan counties.

Variable	Factor 1	Factor 2	Factor 3	Factor 4
% employed in agriculture, 1970	.90	*	*	*
% wage and salary in agriculture, 1973	.91	*	*	*
% employed in wholesale and retail trade 1970	-.60	-.48	.40	*
% wage and salary in wholesale and retail trade 1973	-.56	*	*	.44
% employed in manufacturing, 1970	*	.95	*	*
% wage and salary in manufacturing, 1973	*	.95	*	*
% employed in services, 1970	*	*	*	.72
% wage and salary in services, 1973	*	*	*	.87
% population age 65 and over, 1970	*	*	.78	*
Net migration rate 65 and over, 1960-70	*	*	.88	*
Eigenvalue	2.69	1.87	1.72	1.37
Cumulated % variance explained	26.9	45.6	62.9	76.6

Notes: Minimum eigenvalue is one; factor loading less than .30 are not shown in the table.

Sources: (1) Information about the percent employed in various industries in 1970 is derived from 1970 Census of Population.

(2) Information about wage and salary in various industries as a percentage of total county employment 1973 is derived from Michigan Statistical Abstract 1976, Division of Research, Graduate school of Business Administration, Michigan State University.

TABLE 2. Factor loading of community functions without wholesale and retail trade, 42 Michigan nonmetropolitan counties

Variable	Factor 1	Factor 2	Factor 3	Factor 4
% employed in agriculture, 1970	.94	*	*	*
% wage and salary in agriculture, 1973	.95	*	*	*
% employed in manufacturing, 1970	*	.95	*	*
% wage and salary in manufacturing, 1973	*	.97	*	*
% employed in services, 1970	*	*	*	.83
% wage and salary in services, 1973	*	*	*	.82
% population age 65 and over, 1970	*	*	.85	*
Net migration rate 65 and over, 1960-70	*	*	.85	*
Eigenvalue	2.26	1.77	1.40	1.18
Cumulated % variance explained	28.2	50.3	67.8	82.5

Notes and Sources: See Table 1.

TABLE 3. Intercorrelations of the measures of structural change, mean, and standard deviation, 42 Michigan nonmetropolitan counties.

Measures	2	3	4	mean	standard deviation
1. Number of function added	.34	.63	.56	8.31	3.73
2. Number of function dropped		-.46	-.47	8.45	3.56
3. Total score of structural change			.88	20.95	105.87
4. Index of structural development				.67	2.56

TABLE 4. Intercorrelations between specialized community functions and community growth, and mean and standard deviation of the variables, 42 Michigan nonmetropolitan counties.

Variable	2	3	4	5	6	7	8	mean	standard deviation
1. Retirement function	.25	.08	.03	.23	.68	.49	.15	.00	1.02
2. Agriculture		.07	-.04	-.50	.17	.19	-.10	.00	1.00
3. Manufacturing			.06	-.28	.30	-.03	-.21	.00	1.00
4. Service				.19	.28	.19	.19	.00	.99
5. Wholesale and retail trade					.20	.31	.17	.00	1.63
6. Net migration rate, age 30-54, 1960-70						.71	.20	9.97	18.22
7. Population growth rate, 1970-75							.41	14.73	11.39
8. Rate of structural development, 1970-75								.67	2.56

Note: The measures of the retirement function, agriculture, manufacturing, and service are derived from the factor scores in the factor analysis excluding wholesale and retail trade. The measure of wholesale and retail trade is derived by adding Z-scores of percent employed in wholesale and retail trade and percent wage and salary of this sector as total county wage and salary income.

TABLE 5. Standardized regression coefficients of specialized functions, retirement function on population growth and structural change, 42 Michigan nonmetropolitan counties.

Independent Variables	Wholesale retail trade	Net-migration rate 30-54	Population growth rate	Structural development
Retirement function	.39	.61	-.17	.03
Agriculture	-.57	.06	.24	-.16
Manufacturing	-.26	.29	-.21	-.31
Services	.13	.26	-.08	.10
Wholesale and retail trade	-	.12	.27	-.08
Net migration rate 30-54	-	-	.82	.29
R	.69	.78	.78	.39
R^2	.47	.61	.61	.15

TABLE 6. Correlations between specialized community functions, community growth, and elderly migration and percent elderly, 42 Michigan nonmetropolitan counties.

Variable	Net migration rate of elderly 1960-70	Proportion of the elderly, 1970
Retirement function	.85	.87
Agriculture	.23	.20
Manufacturing	.06	.08
Service	.08	-.02
Wholesale and retail trade	.25	.08
Net migration rate, age 30-54, 1960-70	.82	.36
Population growth rate, 1970-75	.69	.16
Rate of structural development, 1970-75	.26	-.01
Net migration rate of elderly, 1960-70	-	.48
mean	10.20	12.75
standard deviation	18.90	2.92

TABLE 7. Standardized regression coefficients of specialized functions, migration measures on population growth and structural development, 42 Michigan nonmetropolitan counties.

Independent Variables	Wholesale retail trade	Net migration rate 30-54	Population growth rate	Structural development
Net migration rate 65 and over	.39	.83	.69	.41
Percent population 65 and over	.07	-.05	-.23	-.13
Agriculture	-.57	-.04	.19	-.21
Manufacturing	-.26	.26	.00	-.25
Services	.12	.23	.10	.15
Wholesale and retail trade	-	-.02	.22	-.13
R	.71	.89	.75	.43
R^2	.50	.80	.56	.19

Note: Since net migration rate of the elderly and net migration rate of younger people are highly correlated, the problem of multicollinearity may be involved. Thus, net migration rate of younger people is excluded from the regression on the population growth and structural development when net migration rate of the elderly is used as the independent variable.

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Dear Ching-li:

This is to acknowledge that I have received your statement of intent for the following contributed paper:

"Retirement Function and Community in Michigan Nonmetropolitan Areas"

I would like to remind you that April 1, 1978, is the deadline for submission of completed papers. Only completed papers will be given space on the program. Since April 1 is a relatively late deadline, the Program Committee regards this deadline as being firm. Final papers received after April 1 cannot be considered for inclusion on the program.

When you have completed your paper, please send two copies of the paper to me at the address given below. The Program Committee would appreciate it if completed papers are submitted before the April 1 deadline to smooth out the flow of administrative work.

When submitting the two copies of the completed paper, it would also be helpful if you would indicate the type or types of sessions which you feel are most appropriate for your paper (e.g., sociology of natural resources, rural poverty, sociology of agriculture, etc.).

I will be mailing SOCIOLOGICAL ABSTRACTS forms to you during the first week of March. These forms must be filled out and returned no later than March 15 in order for your abstract to appear in SOCIOLOGICAL ABSTRACTS in the registration packet.

Thank you for your interest in the RSS annual meeting.

Sincerely,

Fred

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